

VentureCraft

SoundDroid

Headphone Amplifier

DSD

Typhoon

Upsampling Function

DSD Playback

Headphone Amplifier with USB-DAC

User's Guide



CONTENTS

■ Features of this Product	2
■ Contents of Package	3
■ Compatible Models of iPod/iPhone and PC (OS)	3
■ How to Use this Product	3
1. Checking the Remaining Battery of this Product	3
2. Charging the Built-in Battery of this Product	4
3. Charging iPod/iPhone by this Product's Built-in Battery	4
4. Connecting with iPod/iPhone	5
5. Listening to Music in iPod/iPhone in "iAMP" Mode	5
6. Synchronizing with iPod/iPhone and iTunes on PC	6
7. Listening to Music on PC in "USB DAC" Mode	7
8. Playing DSD Audio Files with foobar2000	8
9. Connecting to Other Audio Devices	18
10. Setting Other Functions	19
11. Setting Gain	20
Troubleshooting	21
■ Specifications	22
■ Appendix:	
Input/Output Relations and Toggle Switch Pattern Diagram	24
■ Cautions on Use	25
■ Product Support	28

Thank you for purchasing VentureCraft product. Please read this user's guide thoroughly before using.

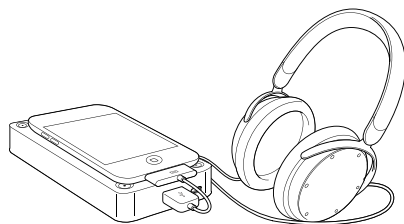
Keep this document available for your future reference.

Disclaimer

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- VentureCraft is not responsible for any changes or losses to recorded data, losses of commercial profit, interruption of business operations, or any resultant damages or losses caused by use or malfunction of this product.
- VentureCraft is not responsible for any damages caused by failure to follow instructions in this user's guide.

Dear Valued Customer

- Before using this product, please make sure to read "Cautions on Use" found on the page 25 of this document.
- The appendix of input/output relations and toggle switch pattern diagram is on the page of this document.
- [8. Playing DSD Audio Files with foobar2000] explains how to install software package on PC. It is recommended to print out the procedures prior to the installation.



■ Features of this Product

SounDroid Typhoon supports 4 inputs (iPod/iPhone, PC [USB], optical digital, analog line) and 3 outputs (headphone, optical digital, variable analog line).

As a portable headphone amplifier, *the world's first "iPod/iPhone upsampling" function is mounted. The upsampled digital data is converted to the wider dynamic-ranged and high-resoluted analog signal by the TI's high-quality DAC, PCM5102A (32bit/192kHz/112dB).

* Upsampling (iPod/iPhone only): 48kHz, 96kHz, or 192kHz/32bit (max.)

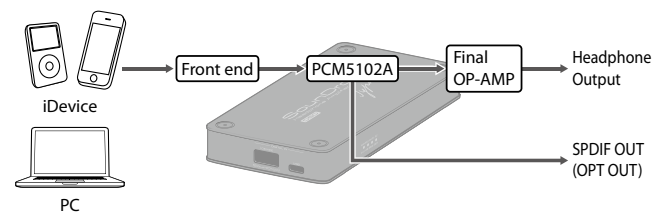
For the analog circuit pre-amplifier, the low-noise and low-distortion TI's LME49860 (changeable) is mounted, and for the headphone amplifier, the high slew-rate current feedback type high quality amplifier, TPA6120, is mounted. Accordingly, super quiet and super high-quality sound become real, and it surely maximizes the headphone potential.

- PC-USB DAC (96kHz/32bit)
- Asynchronous mode

The high-quality D/A conversion is operated by the sophisticated clock that segregates well the PC jitter, and it supports 96kHz/32bit PCM format.

By the internal DSP, DSD format (2.8224MHz) is real-timely converted to PCM format at 88.2kHz/32bit, and it fully maximizes the potential of such high-quality sound digital contents.

* Some OS and PC are not supported.



■ Contents of Package

- SounDroid Typhoon main unit
- USB cable (USB2.0 compatible[A connector - micro B connector type])
- Customer card & Warranty (Japan only)

■ Compatible Models of iPod/iPhone and PC (OS)

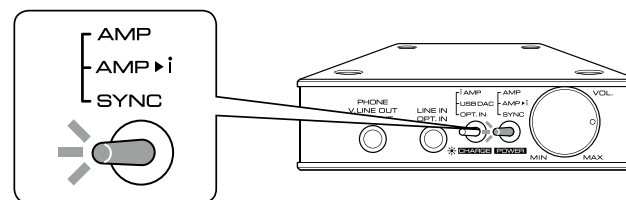
- iPod:
iPod classic (160GB, 2009)/iPod nano (6th/7th generation)/
iPod touch (4th/5th generation)
- iPhone:
iPhone 5/4S/4
- PC (OS)
Windows:
8/7/Vista/XP SP3 or later (32bit/64bit)
Mac :
OS X v10.5 or later

■ How to Use this Product

Please follow operational procedures 1 to 11 below.

1. Checking the Remaining Battery of this Product

The remaining battery can be checked by the LED color of the toggle switch (R) on the front panel. When turning the power ON, the LED lights up based on the level of the remaining battery.

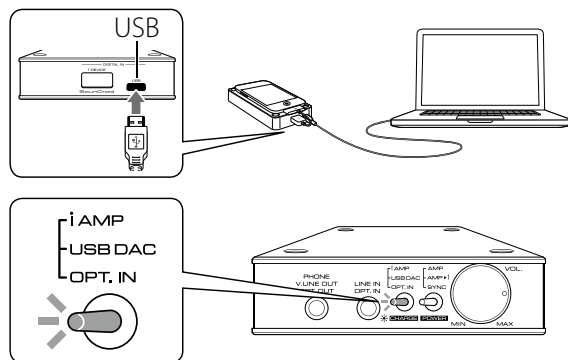


Remaining battery	LED
Full	Green
Empty	Red

CAUTION

The battery at the time of purchase is not fully charged.
Charge the battery before using this product.

2. Charging the Built-in Battery of this Product



- 1 Connect the USB micro B connector on the rear panel of this product and PC or the USB charging adapter supplied with iPod/iPhone by using the supplied USB cable.
- 2 The LED color of the toggle switch (L) on the front panel stays red while being charged and becomes green when fully charged.

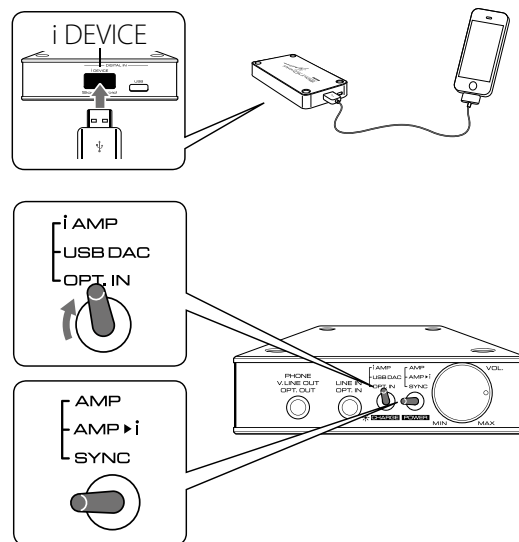
* When the built-in battery of this product is fully charged, it will automatically start charging iPod/iPhone. It takes approximately 6 hours to fully charge this product.



CAUTION

If both LEDs are off or become off while the USB cable is connected, immediately disconnect the USB cable and stop charging.

Please refer to "Troubleshooting" on page 21 of this User's Guide and reset before reuse.

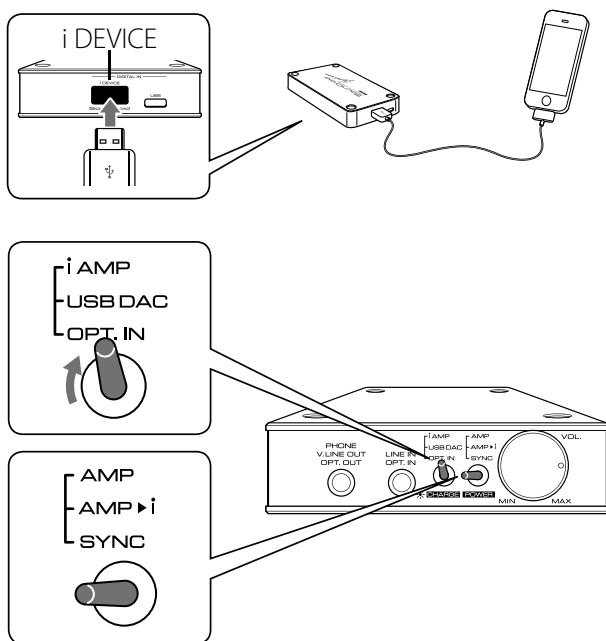
3. Charging iPod/iPhone by this Product's Built-in Battery



- 1 Connect by inserting the Apple genuine dock cable supplied with iPod/iPhone into the iDEVICE (USB standard A) connector of this product.
- 2 Turn the power ON by the power switch volume knob and set the toggle switch (R) to "AMP > i" position and the toggle switch (L) to "iAMP" position. iPod/iPhone will start to be charged by the built-in battery of this product. The battery mark  located at the top right of iPod/iPhone screen will change to a charging mark .

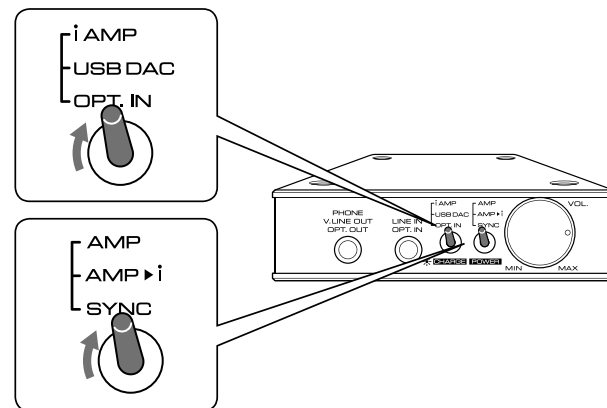
4. Connecting with iPod/iPhone

Connect by inserting the Apple genuine dock cable supplied with iPod/iPhone into the iDEVICE (USB standard A) connector of this product, turn the power ON by the power switch volume knob, and set the toggle switches on the front panel (L) to "iAMP" and (R) to "AMP" or "AMP▶i" for headphone output/digital output.



5. Listening to Music in iPod/iPhone in "iAMP" Mode

- 1 Turn the power ON by the power switch volume knob and set the toggle switch (L) to "iAMP" position and the toggle switch (R) to "AMP" position.



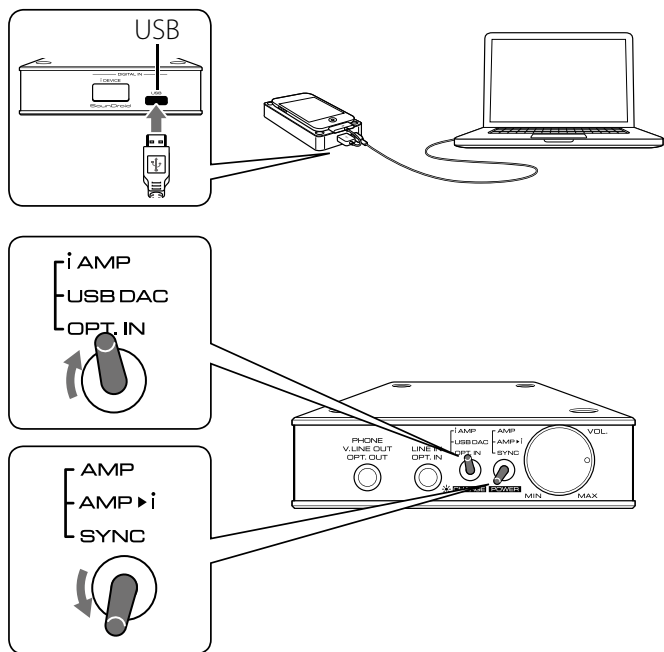
- 2 Once this product and iPod/iPhone are correctly connected (authenticated), music starts playing.

* If music is not playing, iPod/iPhone may not be connected with this product at all, or it may not be correctly connected (authenticated).

In such case, disconnect iPod/iPhone once and reconnect, or turn the power OFF by turning the power switch volume knob counterclockwise all the way until it clicks and then turn the power ON again.

6. Synchronizing with iPod/iPhone and iTunes on PC

- 1** Connect the USB micro B connector on the rear panel of this product and your PC with the supplied USB cable.
- 2** Turn the power ON by the power switch volume knob and set the toggle switch (L) on the front panel to "**iAMP**" position and the toggle switch (R) to "**SYNC**" position to synchronize with iTunes on PC. "SYNC" state is the same as if iPod/iPhone was directly connected to PC.

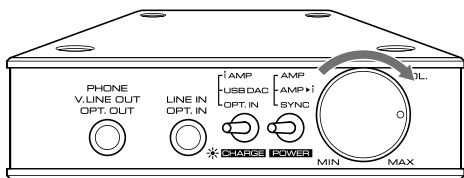


CAUTION

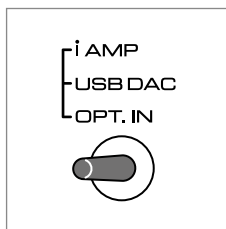
Do not change the switches or disconnect the microUSB cable during synchronization.

7. Listening to Music on PC in "USB DAC" Mode

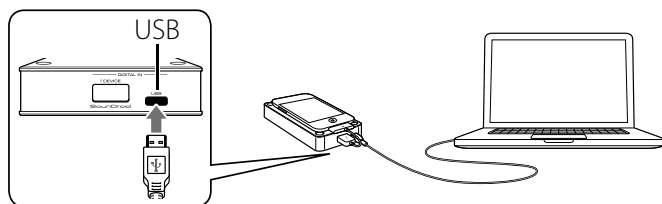
- 1 Turn the power switch volume knob clockwise until it clicks to turn the power ON.



- 2 Set the toggle switch (L) to "USB DAC" position.

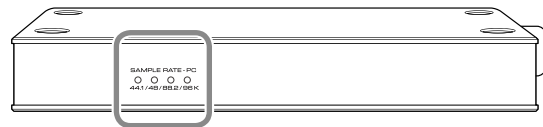


- 3 Connect this product and PC with the supplied USB cable. The USB audio output device driver is automatically installed when this product is connected to PC for the first time.



- 4 Check the sound setting on PC and confirm a sound is coming. For volume control, adjust the volume on PC.

* The built-in battery is charged at the same time.



When using this product in PC-USB DAC mode, the SAMPLE RATE-PC indicator at the side panel shows the sampling frequency of the playing music.

Installing the foobar2000 software package enables the high-resolution digital DSD playback.

Next 10 pages explain about the software package.

8. Playing DSD Audio Files with foobar2000

■ Installation of software package

For Windows PC

SounDroid Typhoon is compatible with Windows8/7/Vista/XP. Installing the audio driver for asynchronous connection and ASIO driver for receiving DSD Native data to the internal DSP.

- 1** Download the software package from our official website.
- 2** Open the downloaded folder.
- 3** Click the set-up files and operate the installation. when the set-up is finished, PC automatically restarts, and the installation is completed.

■ Playback settings for DSD formats

For Windows PC

● Required software and components for DSD playback (by foobar2000)

foobar2000	DSD playback software
foo out asio	ASIO output component for foobar2000
foo input sacd	Component for DSD playback

【Supported DSD audio formats】

DSF format

DSDIFF format

● Downloading foobar2000

- 1** Start internet browser and access to the below URL.
<http://www.foobar2000.org/>
- 2** Click "Latest stable version Download foobar2000 v1.x.x" under Download tag.
- 3** Click [Save].

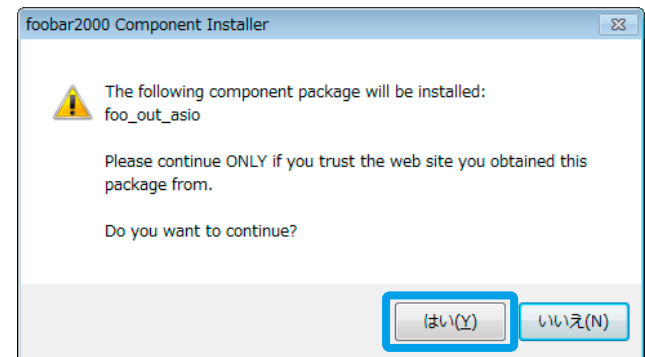
● Installation of foobar2000

- 1** Start installer(Windows8/7/Vista).
- 2** Double-click "foobar2000_v1.x.x" on desktop (Windows XP).

- 3** Click [Next].
- 4** License Agreement appears, and click [I Agree] as accepting the agreement.
Install Type appears.
- 5** Select "Standard installation" and click [Next].
- 6** Set the destination folder for installation and click [Next].
- 7** Click [Install].
Installation of foobar2000 is now completed.
- 8** Uncheck "Run foobar2000" and click [Finish].

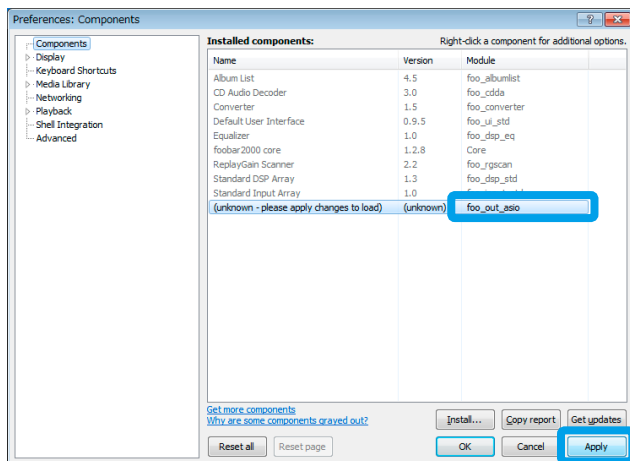
● Installation of Component foo out asio

- 1** Start internet browser and access to the below URL.
<http://www.foobar2000.org/components>
- 2** Click "ASIO support 2.1.2".
* Link name may differ by updates.
- 3** Click "Download" under Links.
- 4** Open the downloaded folder (Windows8/7/Vista).
foobar2000 starts, and this screen appears.
Click [Yes].

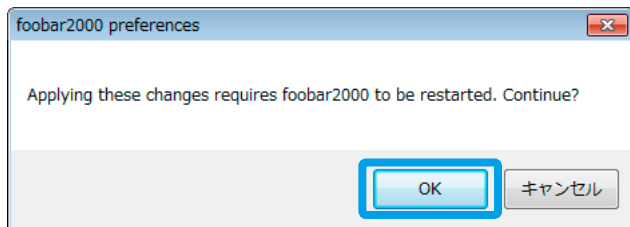


"foo_out_asio" appears on "Installed components".

5 Select "foo out asio" and click [Apply].



This screen appears.

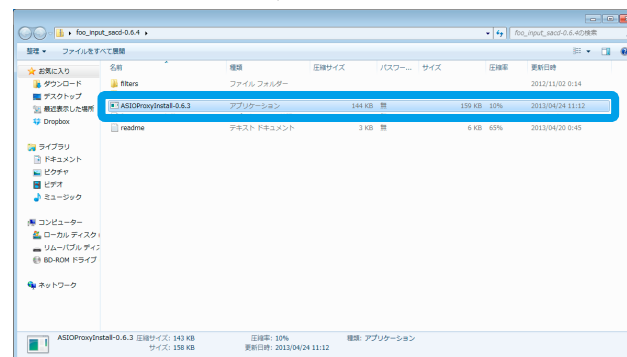


6 Click [OK].

Installation of foo out asio for foobar2000 is now completed.

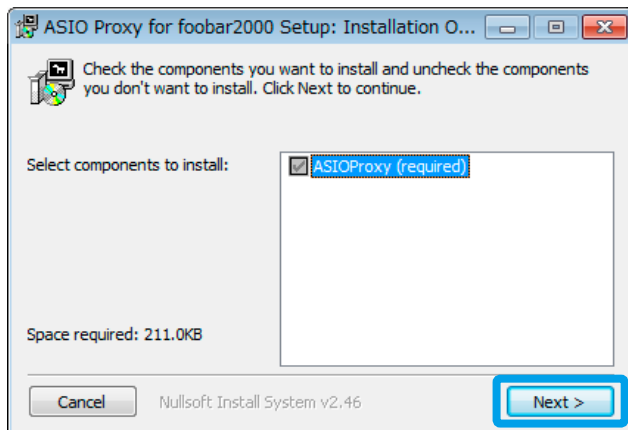
● Installation of foo input sacd

- 1 Start internet browser and access to the below URL.
http://www.sourceforge.net/projects/sacddecoder/files/foo_input_sacd/
- 2 Click "foo_input_sacd-0.6.x.zip".
* Link name may differ by updates.
- 3 Click [Save].
- 4 Open the downloaded folder.
- 5 Double-click "ASIOProxyInstall".

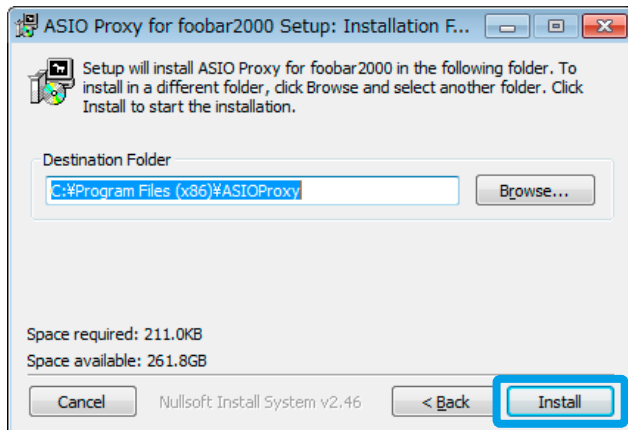


Installer starts.

6 Click [Next].

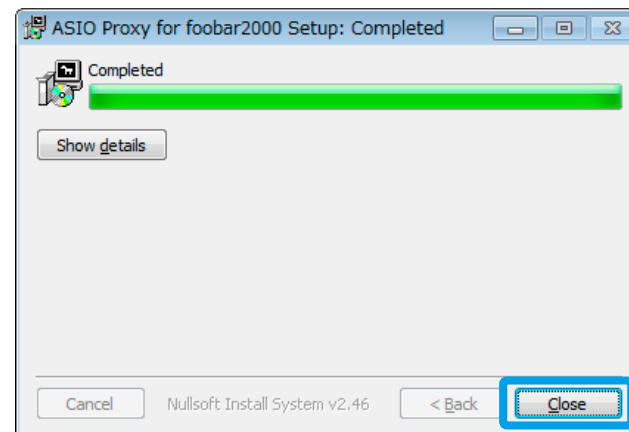


7 Set the destination folder for installation.



8 Click [Install].

Installation begins.



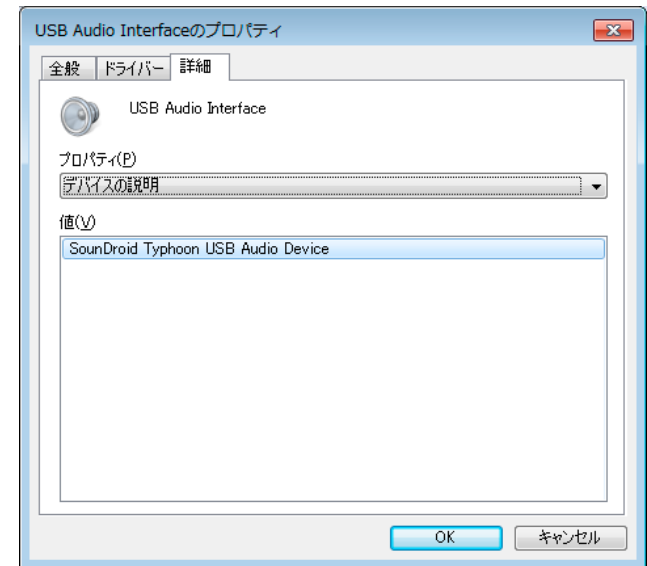
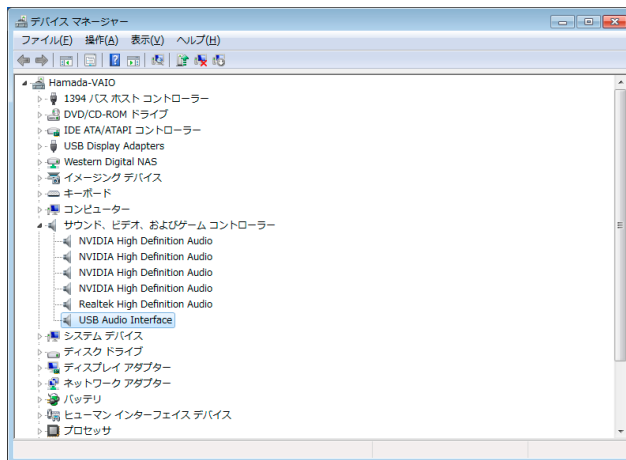
9 When installation is completed, click [Close] and finish the operation.

● Setting up foobar2000

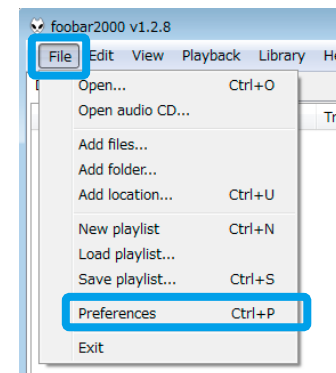
Associating the previously downloaded/installed components and tools with foobar2000 and setting up to receive DSD Native in this product.

- 1 Check this product and PC are connected.
- 2 Double-click "USB Audio Interface" on PC's Device Manager to check the Property Details.

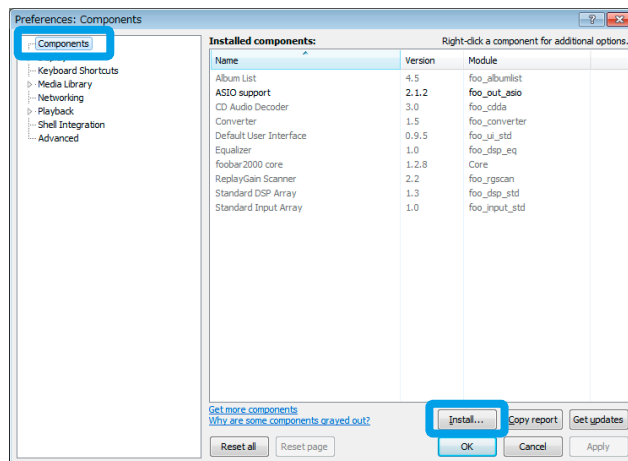
If it does not appear, this product and PC are not properly connected.



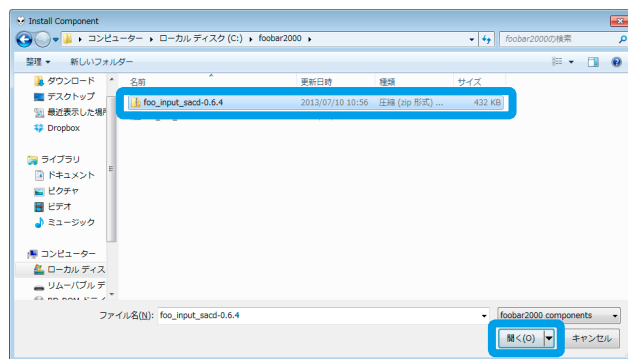
- 3 Click (File) → (Preferences) on foobar2000.



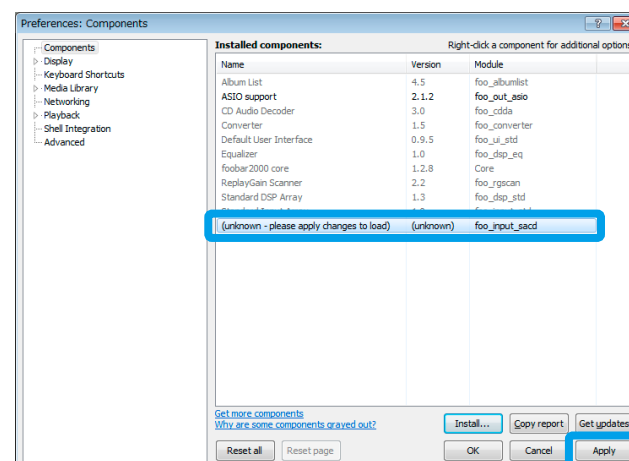
4 Open (Components) and click [Install].



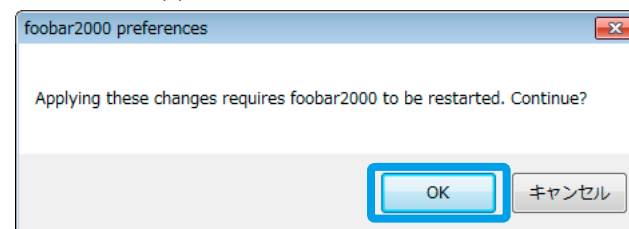
5 Select "foo_input_sacd-0.6.x" compressed file and click [Open].



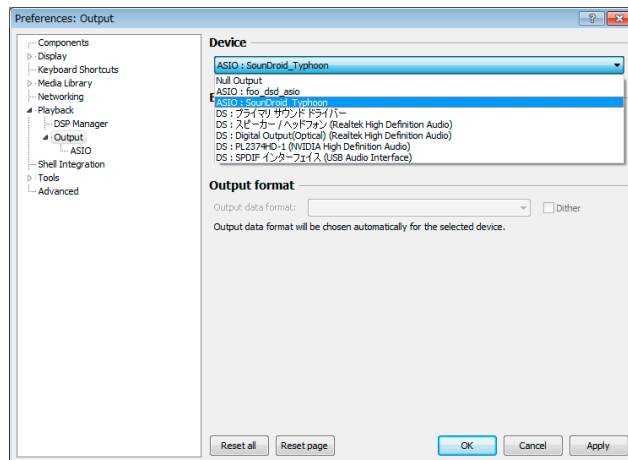
6 Select "foo_input_sacd" and click [Apply].



7 This screen appears. Click [OK].



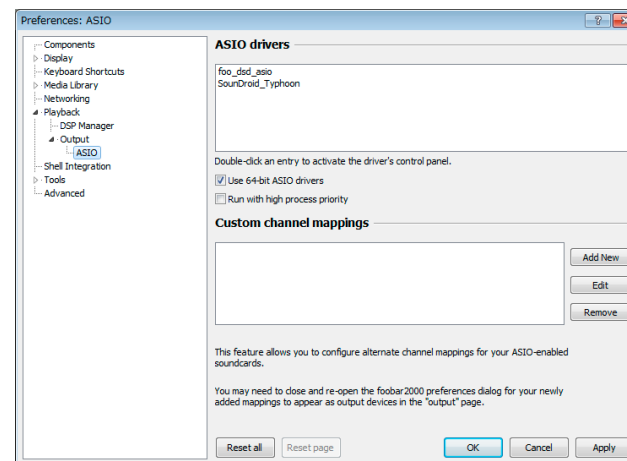
- 8** Double-click (Playback).
- 9** Click (Output).
- 10** Select "ASIO:SounDroid_Typhoon" under (Device).
- 11** Click [Apply] and [OK].



- 12** Click (Output).

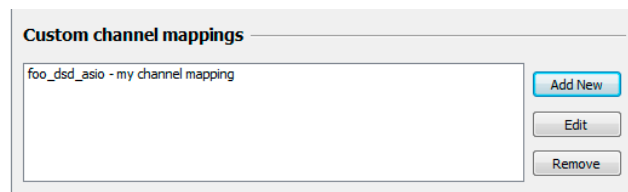
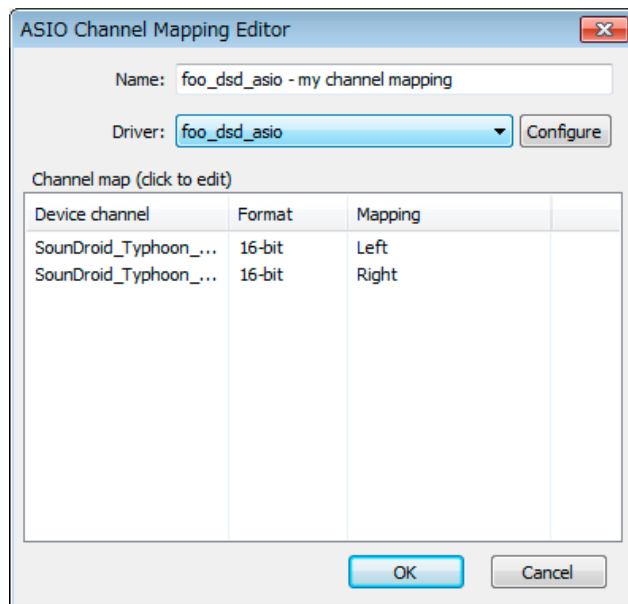
- 13** Click (ASIO).

* If operating at 64bit OS, put a checkmark on "Use 64-bit ASIO drivers".

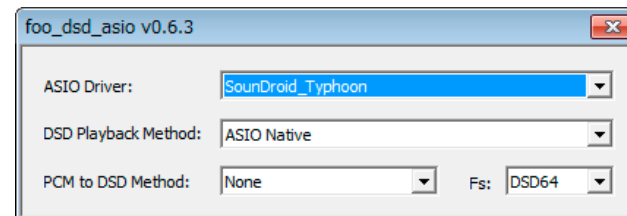


- 14** Select "foo_dsd_asio" on (ASIO drivers).
- 15** Click [Add New] on (Custom channel mappings).

- 16** Select "foo_dsd_asio" under (Driver) on (ASIO Channel Mapping Editor) and click [OK].



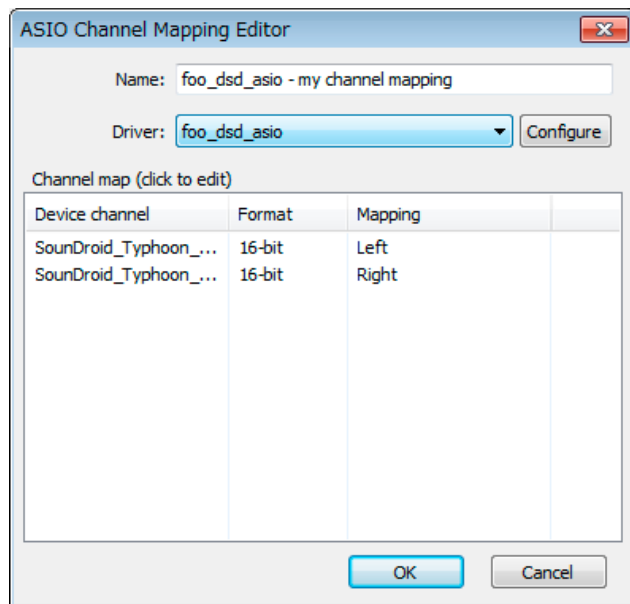
- 17** Click [Configure] and check the settings as below.



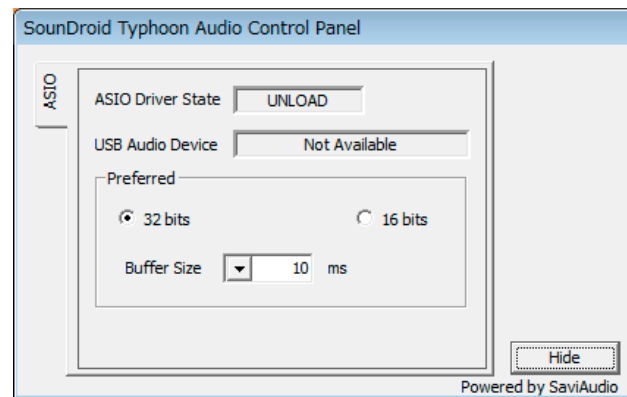
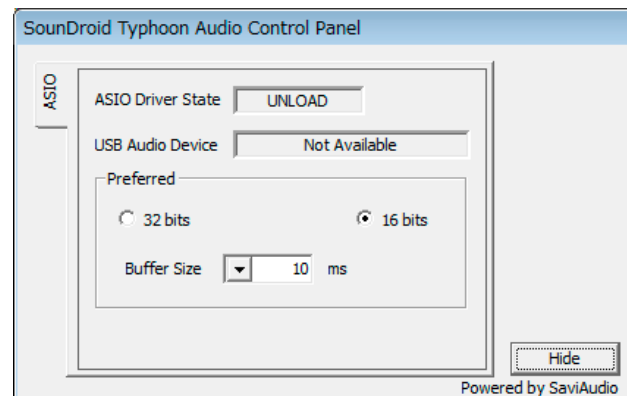
- 18** Select "SounDroid_Typhoon" on (ASIO drivers).

- 19** Click [Add New] on (Custom channel mappings).

- 20** Select "SounDroid_Typhoon" under (Driver) on (ASIO Channel Mapping Editor) and click [OK].

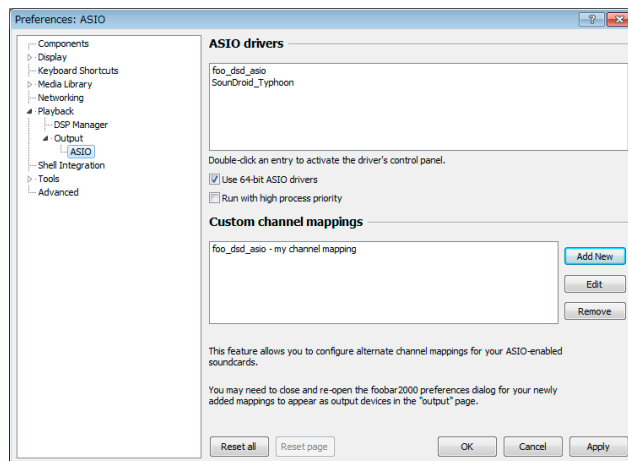


- 21** Click [Configure] and check the settings as below.



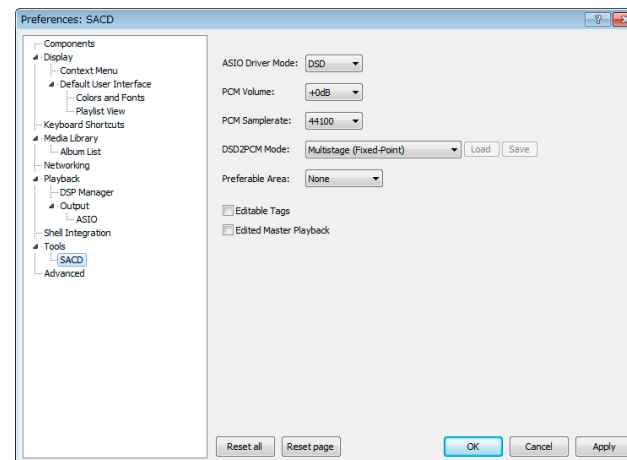
By optionally setting up the bit and sample rate above, the sound data is converted DSD to PCM through this product's internal DSP and output.

22 Click [Apply] and [OK].



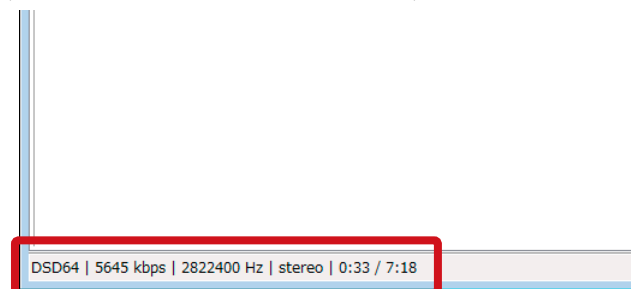
23 Click (Tools) and (SACD).

24 Select "DSD" under (ASIO Driver Mode) and click [Apply] and [OK].



Setting up foobar2000 is now completed.

Enjoy your favorite DSD sounds in the playlist.



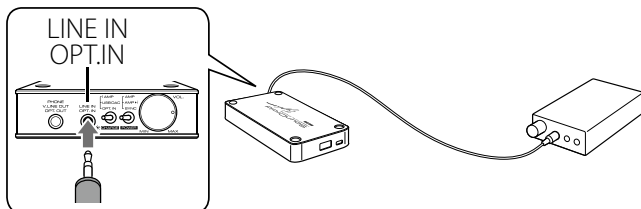
* When DSD is playing, it displays like the above.

9. Connecting to Other Audio Devices

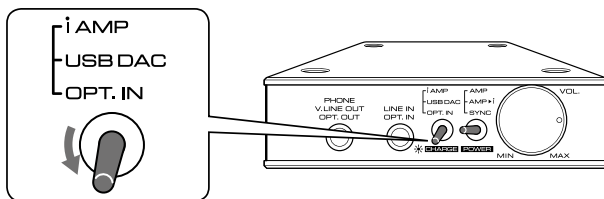
This product supports both digital and analog input/output.

■ Optical digital input

- 1 Connect to the LINE IN/OPT. IN terminal by an optical digital cable.

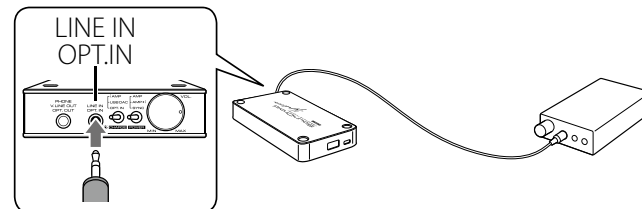


- 2 Set the toggle switch (L) to "OPT. IN" position.

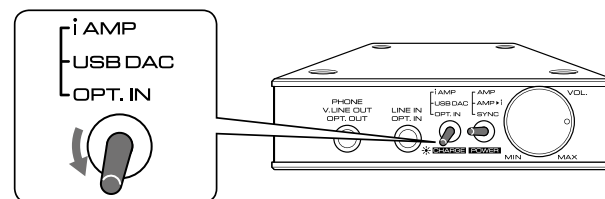


■ Analog line input

- 1 Connect an analog output device to the LINE IN/OPT. IN terminal by a 3.5mm stereo mini cable.



- 2 Set the toggle switch (L) to "OPT. IN" position.

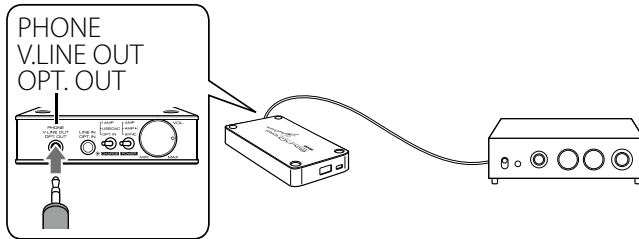


The analog line input data and digital input data can be mixing-playing.

If no mixing-playing and analog line input only, use "OPT. IN" mode.

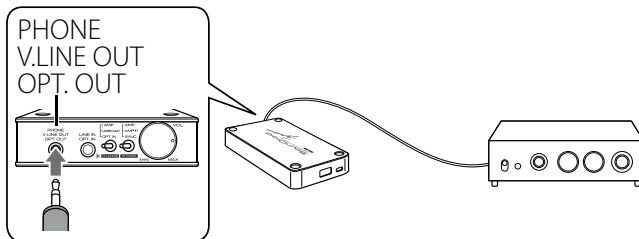
■ Optical digital output

- 1 Connect a digital input device to the OPT. OUT terminal by an optical digital cable.



■ Variable analog line output

- 1 Connect an analog input device to the V.LINE OUT terminal by a 3.5mm stereo mini cable.

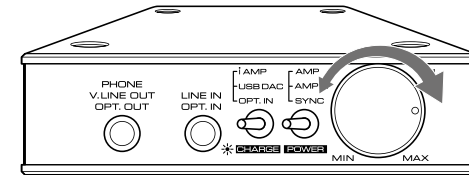


Due to variable analog line output, adjust the volume based on the input level of the connected analog input device.

🔧 10. Setting Other Functions

■ Setting volume

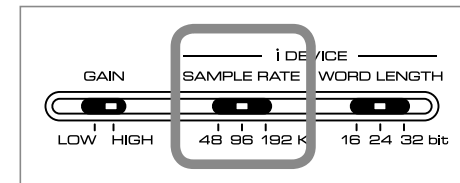
Adjust the power switch volume knob.



■ Switching the sample rate and word length of iDevice audio data

● Sample Rate

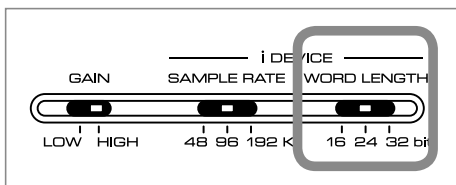
In power OFF condition, set the SAMPLE RATE switch to 48kHz/96kHz (x2)/192kHz (x4) position.



* Upsampling the iPod/iPhone audio data generates 20kHz+ frequency audio information that is supposedly existed between the data essentially. Upsampling enables richer tone and field.

● Word Length

In power OFF condition, set the WORD LENGTH switch to 16/24/32bit position.

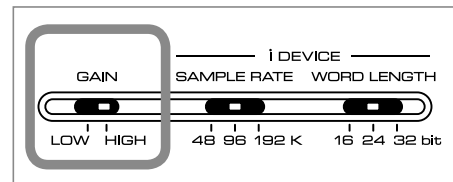


*The higher the bit rate is, the wider the dynamic range becomes, and it provides a lively high-quality sound in a sense of liberty.

11. Setting Gain

Gain of the headphones can be set by switching the GAIN switch to either [HIGH] or [LOW].

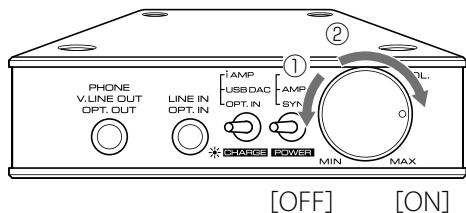
It enables the headphones with different impedance to exert its full performance and to play in high-quality sounds.



* Do not apply force to the GAIN switch to avoid breaking the switch.

Troubleshooting

- In case the operation of this product freezes (operation stops), reset this product to the factory setting by turning the volume knob all the way counterclockwise until it clicks, turning OFF the main power, and then turning back ON by turning the volume knob clockwise again.



- Reconnect iPod/iPhone and this product.
- Restart iPod/iPhone.

Specifications

■ Main unit

Width	67.8mm
Height	139.0mm
Weight	200g

■ Main Specifications

Max. output	80mW+80mW (32Ω)
S/N	95dB or greater (32Ω)/192k, 32bit
Total harmonic distortion	0.01% or less (80mW output)
Frequency characteristic	10Hz-100kHz (LINE IN input)
Adaptive headphone impedance	8Ω-600Ω
Sampling frequency/bit rate	32/44.1/48kHz, 16bit: iPod/iPhone input 32-96kHz (PCM), 16/24/32bit: USB input, 2.8224MHz (DSD): USB input
Upsampling/bit	96/192kHz, 16/24/32bit: iPod/iPhone input only

■ Digital input

USB connector	USB standard A
	USB micro B
Optical digital terminal	3.5mm optical (round)

■ Analog input

Analog line terminal	3.5mm stereo mini 47kΩ/max input level: about 2Vrms
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■ Digital output

Optical digital terminal	3.5mm optical (round)
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■ Analog output

Analog headphone terminal	3.5mm stereo mini
Analog line output terminal (variable)	3.5mm stereo mini
Variable output range	About 1.6mVrms-1.6Vrms Gain L volume max.
	About 2.3mVrms-2.0Vrms Gain H volume max.

■ Battery

Battery type	Lithium ion polymer battery
Capacity	3500mAh
Charge method	Via the supplied USB cable (USB2.0)
Time to full charge	Approx. 6 hours
Sustainable charge frequency	Approx. 500 times

■ Power

Input	DC5V/1A (AC-type USB Charger)
Output	DC5V/1A

■ Compatible audio data format

	AAC (16 to 320Kbps), AIFF, AAC (MP4 downloaded from iTunes Store), MP3 (16 to 320Kbps), MP3 VBR, Audible (formats 2-4), Apple Lossless, WAV PCM, DSD Native
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■ Supported OS

	Windows8, Windows7, WindowsVista, WindowsXP, MacOS X v10.7 or later * Supports both Windows 32bit/64bit
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■ Software

	Software package (download)
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Appendix: Input/Output Relations and Toggle Switch Pattern Diagram

Input \ Output		Headphone Out	Variable Line Out	Optical S/PDIF
iDevice 44.1KHz/16bit		80mW+80mW (32Ω) * 48KHz/96KHz/192KHz 16bit/24bit/32bit	About 2Vrms (@47kΩ)	192KHz/24bit (Max.)
Optical S/PDIF 192KHz/24bit (Max.)		80mW+80mW (32Ω)	About 2Vrms (@47kΩ)	192KHz/24bit (Max.)
Line		80mW+80mW (32Ω)	About 2Vrms (@47kΩ)	—
PC	PCM 96KHz/32bit (Max.)	80mW+80mW (32Ω) * 96KHz/32bit (Max.)	About 2Vrms (@47kΩ)	96KHz/32bit (Max.)
	DSD 64DSD 2.8MHz	80mW+80mW (32Ω) * 88.2KHz/16bit or 32bit (PCM conversion)	About 2Vrms (@47kΩ)	88.2KHz/16bit or 24bit (PCM conversion)

Input \ Output		Headphone Out	Variable Line Out	Optical S/PDIF
iDevice		Toggle (L) : iAMP Toggle (R) : AMP or AMPi	Toggle (L) : iAMP Toggle (R) : AMP or AMPi	Toggle (L) : iAMP Toggle (R) : AMP or AMPi
Optical S/PDIF		Toggle (L) : OPT.IN Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : OPT.IN Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : OPT.IN Toggle (R) : SYNC or AMP or AMPi
Line		Toggle (L) : USB-DAC or OPT.IN Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : USB-DAC or OPT.IN Toggle (R) : SYNC or AMP or AMPi	—
PC	PCM	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi
	DSD	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi	Toggle (L) : USB-DAC Toggle (R) : SYNC or AMP or AMPi

Cautions on Use

In order to use this product safely and prevent accidents, please take the following cautions.

- In order to avoid risks such as fire and electric shock, do not use in high-humidity environments or where this product may come in contact with water.
- Do not use, charge, or leave this product in locations exposed to direct sunlight such as car dashboards and window sills. Also, do not use, charge, or leave in high-temperature environments such as inside vehicles parked in the sun or near heat sources such as heaters and stoves.
- Do not use to play music, etc. while driving a vehicle, riding a bicycle, or walking.
- If liquid that has been leaked from the battery makes contact with your skin or cloths, wash under running water immediately. Also, if such liquid enters your eyes, wash under running water immediately without rubbing and consult a doctor.
- Do not disassemble, modify, or repair this product by yourself.
- If this product does not get fully charged after the specified charging time, cease charging and arrange for inspection/repairs to be performed.
- Use a soft cloth to clean this product. Do not directly apply water, dust spray, solvent, polisher, cleaning agent, etc.

- The battery has a life duration. The usable duration will become shorter due to aging degradation. Do not keep charging for a long period of time. Always disconnect the USB cable each time when charging is completed.

Battery Disposal and Recycle

When disposing of this product, do so in accordance with the laws and regulations applicable in the area you live. This product has a built-in battery therefore can not be disposed of together with general household waste.

For the customers in the USA INFORMATION:

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the product and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this product.

If you have any questions about this product:

Visit: <http://go-dap.com>

Contact: Venture Craft Customer Information Service
+81-3-5204-1004

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For the customers in the USA and Canada RECYCLING LITHIUM-ION BATTERIES

Lithium-ion batteries are recyclable.

You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.rbrc.org/>.

Caution: Do not handle damaged or leaking Lithium-ion batteries.



About China RoHS Compliance

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有毒或 有害物质	零部件	
	电路板	附件
铅 (Pb)	○	○
汞 (Hg)	○	○
镉 (Cd)	○	○
六价铬 (Cr ⁶⁺)	○	○
多溴联苯 (PBB)	○	○
多溴二苯醚 (PBDE)	○	○

○ 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。

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European Union - Electronics and Battery Disposal Information:

This symbol means that according to local laws and regulations your product and its battery should be recycled separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities for the recycling of electronic product. The improper disposal of waste electronic product from the consumer may be subject to fines. The separate collection and recycling of your product and its battery at the time of

disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

CE Notice



This product conforms to the EMC Directive 2004/108/EC and to the Low Voltage Directive 2006/95/EC. The complete Declarations of Conformity can be found at <http://go-dap.com>.

Product Support

VentureCraft Inc. Gadget Business Division

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